EXHIBIT D

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March 24, 2011

RE: Paul D. Ceglia v. Mark Elliot Zuckerberg and Facebook, Inc.
Our File No.: 0511-2114

I. PURPOSE OF EXAMINATION

I was engaged as an expert in the area of questioned document examination, particularly the analysis of ink and paper, in the above-referenced matter. To that end, at Defendants' examination of hard-copy documents, I was provided for inspection two documents: a two-page "Work for Hire" document and a six-page "Specifications" document. I was tasked with performing appropriate physical and chemical testing upon these documents. My conclusions are set forth in Section IV below.

II. QUALIFICATIONS

As an indication of my expertise in performing the above-referenced examination, I include the following brief description of my qualifications. I have been a Forensic Chemist specializing in the analysis of questioned documents, particularly the analysis of ink and paper and the determination of the date of preparation of documents, for over 36 years. A true and correct copy of my curriculum vitae is attached as Exhibit A. During that time I have used my training and education in chemistry (B.S. and Ph.D.) and forensic science (M.S.F.S.) to address many different problems within the field of questioned document examination, including the evaluation of the effects of environmental conditions on the materials used to prepare documents and the evaluation of the effects of the artificial treatment of documents.

I have provided expert testimony more than 200 times in over 35 states and abroad, including both State and Federal courts and international courts and tribunals in places such as Australia, Malaysia, Hong Kong, France, Canada, and Mexico. Additionally, I have presented research before scientific organizations including the American Academy of Forensic Sciences, the International Association of Forensic Sciences, the Southwestern Association of Forensic Document Examiners and the American Society of Questioned Document Examiners. A true and correct list of my publications is also included in Exhibit A.

III. EXAMINATION OF THE QUESTIONED DOCUMENTS

On July 19, 2011, I attended Defendants' hard-copy document examination at the law offices of Harris Beach in Buffalo, New York. The questioned documents, the "Work for Hire" document

and the "Specifications" document, were transported to this location and observed to be contained within several envelopes. These envelopes were opened by Plaintiff's counsel Paul Argentieri under the observation of Defendants' counsel and me. My understanding is that prior to my examination, both documents were maintained by Plaintiff or Plaintiff's counsel. I conducted a physical examination and extracted samples for chemical analysis to be conducted at my laboratory in Raleigh, North Carolina.

On August 26, 2011, I returned to the law offices of Harris Beach to conduct the ink sampling authorized by the Court's August 18, 2011 Order (Doc. No. 117). Pursuant to that Order, I again extracted samples from the questioned documents.

A. PHYSICAL EXAMINATION

I performed a series of standard tests during my physical examination of the questioned documents, including but not limited to the following:

1) Visual And Microscopic

I viewed the questioned documents with both the unaided eye and with magnification ranging from 4x to 140x by means of handheld magnifiers, video-based magnification and a digital microscope. The handheld magnifiers used room illumination and did not contain internal illumination. The device I used for video-based magnification was the Foster + Freeman Video Spectral Comparator Model VSC4c and allowed magnification of approximately 4x to 10x. I also used a MiScope digital microscope that provided examination at either 40x or 140x with capabilities for digital image capture, which allowed me to capture digital images at these magnifications.

2) Ultraviolet

I also used the VSC4c—which allows examination of documents with light from a spectral range from the ultraviolet (365 nm) through the visible (400 to 700 nm) into the near infrared (700 to 1000 nm)—in order to examine the questioned documents with light from the ultraviolet region of the spectrum. This includes both reflected and transmitted long-wave ultraviolet light. The purpose of an ultraviolet examination is to determine how the questioned document reacts to ultraviolet light. Such an examination may also reveal erasures, stains associated with chemicals, and other anomalous features.

The use of ultraviolet light to examine documents is a widely accepted methodology within the forensic document examination field. In my nearly four decades of experience, I am unaware of a single instance in which the examination of questioned documents with ultraviolet light caused a visible deterioration in the appearance of those documents. I am also unaware of any published scientific literature that purports to document visible deterioration caused by the examination of questioned documents with ultraviolet light.

3) Initial Observations Of The Questioned Document Based On Physical Examination

a) Deteriorated Ink Writing on "Work for Hire" Document

Before July 19, 2011, I reviewed an image of the "Work for Hire" document attached to Plaintiff's First Amended Complaint in this action. The ink writing in that image appears to be black and consistent. I also reviewed the declarations of Plaintiff's experts Valery Aginsky and John Paul Osborn, and the images attached to their declarations.[1] Dr. Aginsky describes the document as being prepared on "white paper" and containing "black ballpoint ink." *See* June 16, 2011 Aginsky Decl. ¶¶ 6, 8. Additionally, the images attached to the declarations of Dr. Aginsky and Mr. Osborn show that the ink was dark and of normal density.

In stark contrast, the "Work for Hire" document that I examined on July 19, 2011 contained ink writing that was significantly deteriorated. I observed immediately that the areas of ink writing contained numerous breaks and spaces that had no visible ink. Moreover, the color of the ink was unusual, ranging from yellow to brown. The ink writing also had an unusually non-reflective, dull appearance; typically, ball pen ink is reflective and shiny.

From my extensive experience, I suspected that the ink writing on the paper "Work for Hire" document had been intentionally deteriorated from its original color by excessive exposure to chemical or environmental conditions.

I also reviewed high-resolution scans taken by Defendants' expert Peter V. Tytell at the initial presentation of the "Work for Hire" document for inspection on July 14, 2011. Those July 14, 2011 scans reveal the same deterioration of the "Work for Hire" document that I observed first-hand on July 19, 2011.

b) Uneven Fluorescence in "Work For Hire" Document

In order to further examine the "Work for Hire" document and to evaluate the potential source of this deterioration, I examined the ultraviolet fluorescence of the document.

By way of background, paper manufacturers add organic chemicals called optical brighteners to paper to make it appear more "white." The incandescent or fluorescent light bulbs typically used in residential and office spaces emit light of different wavelengths, including ultraviolet light; when that ultraviolet light excites the optical brighteners in paper, the paper will appear "white." When optical brighteners are illuminated with ultraviolet light, they give off fluorescence, which is observed as brightness or blue light under examination. The paper of the "Work for Hire" document contained optical brighteners, which I confirmed chemically with samples extracted from the paper.

[1] After my examination, I reviewed the high-resolution images that Dr. Aginsky and Mr. Osborn each took of the document in January of 2011, which I understand were obtained by Defendants in discovery production. Both of the images show the "Work for Hire" document with dark, black ink and white paper. The paper did not appear to be discolored at that time.

Under normal conditions of exposure, paper that contains optical brighteners will remain "white" for at least 15-20 years. Moreover, optical brighteners typically deteriorate at an even rate. However, because optical brighteners are organic chemicals, they are also susceptible to deterioration if subjected to prolonged or intense exposure to environmental conditions, such as heat and/or sunlight. In that circumstance, the paper would appear less "white" and might even appear yellow or tan.

I illuminated the "Work for Hire" document with ultraviolet light (365nm) to examine the document's fluorescence. I observed that the majority of the front of both pages of the "Work for Hire" document showed a dull fluorescence. A document containing optical brighteners with bright fluorescence, stored under typical conditions (i.e., not exposed to constant light), typically shows a bright fluorescence for at least 15-20 years. Such optical brighteners do not typically begin to fade in a way that affects the document's fluorescence before that time. Thus, the "Work for Hire" document, purportedly created in 2003 and thus eight years old, should have showed a typical bright fluorescence across the page. However, it did not, which is highly unusual. Indeed, I would not expect a document containing optical brighteners, stored under typical conditions, to show a comparable dullness of fluorescence. I attribute this dullness of fluorescence to the degradation of the document by excessive environmental conditions, probably sunlight or other source of multi-wavelength, intense light.

Unlike the majority of the front of the pages, the back of each page exhibited a typically bright fluorescence. This indicates a difference in exposure between the front of the pages and the back of the pages.

Unusually, the front of each page also contained two small square areas in both the right and left upper portions of the pages that exhibited brighter fluorescence, comparable to the fluorescence of the back of the document. These square areas were about the size of a small clip or the tip of a clothespin. These areas of brighter fluorescence were spaced between approximately 1 to 2.5 inches from the closest edge of the page.

The discrepancy I observed between the unusually dull majority of the pages and the more typical brighter areas of fluorescence in the "Work for Hire" document is extremely unusual. The smaller areas of brighter fluorescence reflect the fluorescence I would typically expect from a document containing optical brighteners, like the "Work for Hire" document. As touched on above, the duller fluorescence on the rest of the page indicates that the optical brighteners originally present in the "Work for Hire" document have been dramatically deteriorated. The smaller areas of brighter fluorescence appear to have been covered or masked from the source (e.g., sunlight, heat, or chemical) of that deterioration.

Furthermore, I observed indentations in the surface of the paper around the smaller areas of brighter fluorescence at the top of each page of the "Work for Hire" document. The size and shape of those indentations are similar to those formed when a sheet of paper is clamped with a clip or spring binder. I did not observe those indentations anywhere else on the edge of either page of the "Work for Hire" document or of the "Specifications" document.

Based on the locations, size, and shape of the smaller, more typical areas of brighter fluorescence, as well as the presence of indentations in the surface of the paper around those areas, I conclude that clips, spring binders, or some similar object masked those smaller areas while the rest of the document was excessively exposed to an environmental source. The presence of these brighter areas of fluorescence supports my ultimate conclusion that this exposure was intentional.

c) Examination of Staple Holes in "Work for Hire" Document

I observed a single set of staple holes in the upper left corner of page 1, and a single set of staple holes on page 2 of the "Work for Hire" document. I also observed a crease that ran along the upper left corner of the first page of the document. The second page contained additional holes in the area of the staple holes that are consistent with what is called "backbiting," the reentry of staples through the back side of the last page in a series of stapled pages.

It should be noted that the two pages of the "Work for Hire" document were unstapled when it was presented to me for examination of July 19, 2011. I did not receive or examine any physical staple that purportedly fastened the document.

In my experience, a single set of staple holes does not mean that a document was stapled only once or even necessarily together. It is quite possible to create a set of staple holes that appear to match on two pieces of paper when in fact stapling the documents more than one time. I have personally created staple holes that appear to align through multiple staplings, and witnessed others do so, for demonstration and training purposes.

d) The "Specifications" Document

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B. CHEMICAL EXAMINATION

In order to analyze the components of the various materials found on or within the questioned documents, I also attempted to conduct chemical examination. The goals of the chemical examination were: (1) to determine any common source of the writing ink present on the questioned documents; (2) to determine the identity of the ink formulations used, and the commercial availability of those formulations; and (3) to determine the time period during which the questioned documents were created.

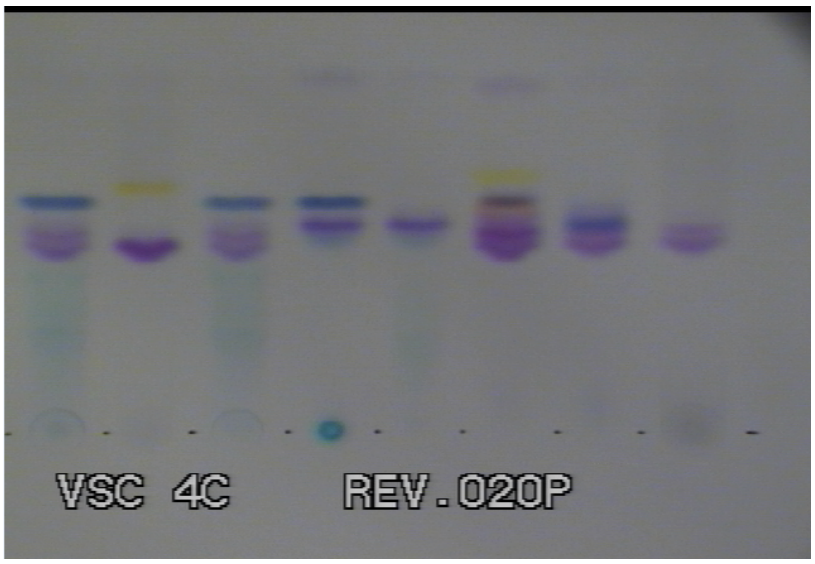
At a chemical level, ink is a complex substance that consists of several components. The major components are colorants (dyes or pigments), solvents, and a substrate (usually a resin, which can be natural or synthetic); ink may also include components such as lubricants and other materials. These components serve many purposes: they affect the ink's color and viscosity (thickness), its flow from the pen, and its appearance when dry. All of these components play a role in the analysis of writing ink. Additionally, while an ink may appear black or blue, the ink may consist of several different dye components that together give the ink a black or blue appearance. Black ink, for instance, may contain violet dyes, yellow dyes, red dyes, and others.

1) Background On Analytical Procedures[2]

a) Thin Layer Chromatography (TLC) and Ink Identification

TLC is a separation technique; that is, it separates complex substances or mixtures, such as writing ink, into their various components. Once the components of a sample of a substance are separated, they can then be compared to the components of other samples. Samples that contain different components can be said to be chemically distinguishable. When applied to the analysis of writing inks, TLC shows the separation of components of a writing ink, typically the dye components. These components can be compared to determine if the various ink samples are distinguishable.

TLC analysis of ink writings requires the removal of small portions of the documents to be examined by means of a hypodermic needle sized hole punch, 0.5mm in diameter. These micro plugs, which contain ink and paper, are examined by extracting the ink from the plugs. The extracted ink is placed onto a TLC plate, which is then developed. This acts to separate the various components of the ink into individual spots or bands. The image of a typical TLC plate below illustrates the separation and the resultant spots and bands that are produced.



[2] I understand that there are other procedures for the analysis of ink that provide accurate results and may be used in combination with the procedures described herein.

The developed TLC plate is viewed both in standard room lighting (white light) and in ultraviolet light, both short wave (254nm) and long wave (365nm). The plate is then allowed to air dry and viewed again in both white and ultraviolet light. It is possible to record TLC examination results via digital imaging or photography, but in most instances there is a loss of resolution during this process.

One of the applications of TLC in ink analysis is the identification of ink formulations, specifically the number of different formulations on a document and, if possible, the identity of those formulations.[3]

b) TLC Densitometry and Ink Dating

Unlike TLC, which is a qualitative examination methodology, TLC Densitometry is a quantitative measurement methodology by which a spot or component present on a TLC plate is measured resulting in a numerical designation for the optical density of the measured spot or component.

TLC Densitometry is used in conjunction with the procedure Relative Aging as a means of ink dating. Relative Aging is used to determine the relative age of one writing in comparison with other writings. The Relative Aging procedure is a comparative analysis, based upon the factual premise that when ink is placed upon a piece of paper it starts to undergo changes due to the exposure of the ink to the environment. These changes include both the evaporation of volatile or semi-volatile components (which are normally measured by a different analytical technique) and the hardening of the resinous component of the ink. These changes affect the way that an ink will extract into a solution in a way that can be quantitatively measured and compared. Specifically, through a calculation and comparison of both the rate of extraction and the extent of extraction, it may be possible to assign a preparation date or time period to examined writings.

2) TLC Results And Effects Of The Deterioration of The "Work for Hire" Document

I performed TLC analysis on microplug samples taken from areas of writing on both of the referenced documents, specifically, from the interlineation on page 1 of the "Work for Hire" document, each signature and date on page 2 of the "Work for Hire" document, REDACTED

At the time I took these samples, I was concerned that the effects of the deterioration of the "Work for Hire" document that I had observed, and which I described above, might affect the results of any TLC analysis. Specifically, I was concerned that the

[3] It is possible to identify the manufacturer of ink writing by performing the above series of physical and chemical testing methodologies and comparing the test results with those for a standard reference collection of ink formulations. Ink identification using TLC is a well-accepted practice: both the United States government (Secret Service) and foreign governments use this method. *See* LaPorte, G. et al., "An Evaluation of Matching Unknown Writing Inks with the United States International Ink Library," JOURNAL OF FORENSIC SCIENCE, Vol. 51, No. 3, May 2006, at 689. During the past decade, some manufacturers have begun including dating "tags"—unique components such as fluorescent dyes—in their ink formulations in order to allow identification of the year of production of the ink.

manner and degree of the ink's deterioration had altered the chemical composition of the ink, such that the results of any TLC analysis would be inconclusive. I was also concerned that the manner and degree of the ink's deterioration had diminished the amount of ink that was available for analysis.

The results of the TLC analysis confirmed my initial concerns. I was unable to obtain satisfactory TLC results because the ink writing on the "Work for Hire" document was deteriorated in a way that changed the chemical composition of the dye components in the ink. This deterioration is apparent in the results of the TLC analysis, which were quite unusual for ball pen inks. Specifically, the components of the extracted ink did not separate into distinct bands of color, but instead elongated over diffuse areas. This diffuse elongation of the ink components was tonally uncharacteristic—different in both color and intensity—of the dye components normally found in ball pen ink. I have only seen this kind of TLC result for inks that have been damaged in some way, either chemically or environmentally.

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It was not possible, however, to make any determination regarding common source with the ink samples from the "Work for Hire" document, given the deterioration of those samples.

Due to the physical condition of the "Work for Hire" document and the manner and degree of deterioration of the ink appearing on the document, the examination I intended to perform was thwarted. To identify an ink formulation by comparison with a standard ink library, the ink in question must be capable of reliable examination by TLC—the dye components must be separated as distinct colored components. This separation did not happen here. Because of the deterioration of the ink, the TLC results were not usable, and I could not perform Ink Identification, TLC Densitometry, or Relative Aging.

IV. CONCLUSION

My conclusions, based on my experience, expertise, and examinations, are as follows:

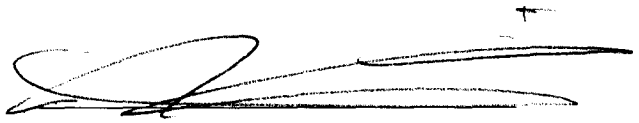
1. The "Work for Hire" document was intentionally exposed to excessive environmental conditions, probably sunlight for an extended period of time, which caused the deterioration of the paper and the ink now present on the document.
    a. The presence of the indentations and "tabs" of bright fluorescence in the upper portions of the pages, coupled with Plaintiff's demonstratively incorrect assertion that Defendants' experts discolored the paper "Work for Hire" document, are

evidence that the treatment to which the "Work for Hire" document was subjected was intentional.

2. The intentional deterioration of the "Work for Hire" document thwarted my ability to assess the authenticity of the questioned documents using TLC analysis and Ink Identification and Relative Aging methodologies.

3. The "Work for Hire" document was altered by exposure to excessive environmental conditions, most likely sunlight for an extended period of time, at some point during the time period from January 2011 to the Defendants' experts' examinations in mid-July 2011.
    a. This conclusion is supported in part by the images of Plaintiff's experts Valery Aginsky and John Paul Osborn from January 2011, which both show the ink was dark and of normal density, and in which the paper did not appear to be discolored, and the declaration of Dr. Aginsky, in which he describes the ink as black ballpoint and the paper as white.

I declare under penalty of perjury that the foregoing is true and correct.



Albert H. Lyter III, Ph.D., D-ABC

EXHIBIT A

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ALBERT H. LYTER III

EDUCATION:

B.S. Chemistry, Oklahoma City University, 1973
B.S. Biology, Oklahoma City University, 1973
M.S. Forensic Science, George Washington University, 1975
Ph.D. Analytical Chemistry, University of North Carolina-Chapel Hill, 1999

TRAINING:

Fiber Microscopy, Institute of Paper Chemistry, 1975
X-ray Spectrometry, State University of New York, 1976
Questioned Documents, United State Secret Service, 1977
High Pressure Liquid Chromatography, Waters Associates, 1978
High Pressure Liquid Chromatography, American Chemical Society, 1978
Forensic Microscopy, McCrone Research Institute, 1978
Surface Analysis Techniques, Physical Electronics, 1992
Identification of Photocopiers, New Mexico State Police, 1983
Canon Facsimile Workshop, American Society of Questioned Document Examiners, 1991
Microscopy for Pigment & Fiber Identification in Art & Artifacts, Campbell Center for Historic Preservation Studies, 2010

EXPERIENCE:

September 1981 to present

President and Chief Scientific Officer of Federal Forensic Associates, Inc.
Engaged in consultation, examination, training, research and testimony in Forensic Science, including ink and paper analysis, trace evidence and questioned document examination
Qualified trace evidence areas include fire debris, explosives, paint, hair, fibers, glass and wood.

January 1975 to September 1981

Forensic Chemist, U.S. Treasury Department, Bureau of Alcohol, Tobacco and Firearms, National Laboratory Center, Rockville, Maryland
Engaged in consultation, examination, training, research and testimony as service to federal and state law enforcement

Court qualified in federal, state and military courts in over 33 states, U.S. Virgin Islands, Australia, Canada, Mexico, Malaysia and Singapore
Instructor at the FBI Academy, Federal Law Enforcement Training Center, Naval Investigative Service, Air Force Office of Special Investigation, United States Secret Service, Florida Department of Law Enforcement, colleges and universities
Lecturer at numerous scientific and legal organization meetings to include the American Academy of Forensic Sciences, American Society of Questioned Document Examiners, California Association of Criminalists, International Association of Forensic Scientists

PROFESSIONAL ORGANIZATIONS:

American Academy of Forensic Sciences - Fellow
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California Association of Criminalists
Southwestern Association of Forensic Document Examiners
International Association of Forensic Sciences
American Chemical Society
Society for Applied Spectroscopy
American Society for Testing and Materials

PUBLICATIONS:

Comparison of Paper Samples - IAI News, 1976
Comparison of Typewriter Ribbon Inks by Thin Layer Chromatography -Journal of Forensic Science, 1977
A Scientific Study of Pencil Lead - Journal of Forensic Science, 1978
Analysis of Water Soluble Paper - Journal of Forensic Science, 1980
Comparison of Typewritten Carbon Impressions - Journal of Forensic Science, 1982
Examination of Ball Pen Ink by High Pressure Liquid Chromatography -Journal of Forensic Science, 1982
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Finding Fraudulent Documents - Family Advocate, 1989
Attempted Determination of Authorship by Ball Pen Line Characteristics -Forensic Science International, 1990
Analysis of Writing Ink - chapter in the book HPLC in Forensic Science, 1982
Contributions to the book Forensic Ink and Paper Examination by Brunelle and Reed, 1982
Examination of Gel Pen Ink by Microspectrometry – Journal of the American Society of Questioned Document Examiners, Dec. 2005
Examination of Gel Pen Ink by Physical and Thin Layer Chromatographic Examination – Journal of the American Society of Questioned Document Examiners, Dec. 2005
Ph.D Dissertation - Surface Characterization of Polymeric Materials by X-ray Photoelectron Spectroscopy and Time-of-Flight Secondary Ion Mass Spectrometry: Biomedical Materials and Forensic Applications

HONORS:

Honorary Assistant Attorney General, State of Alabama
Treasury Award for Outstanding Performance
Honorary Member - Southwestern Association of Forensic Document Examiners

CERTIFICATION: Diplomate of the American Board of Criminalistics

CASES OF NOTE:

Mormon Will of the late Howard R. Hughes
Slander trial of CBS, Sixty Minutes and Dan Rather
Nazi war crimes case of Ivan Demjanjuk
Sam Shephard murder trial – 2000
Martha Stewart case